

Application No.: 09/727,207

Docket No.: RD8120USNA

REMARKS

Claims 1-13 and 16 are pending in the application. Claims 14, 15 and 17-27 have been withdrawn from consideration. Claims 1 and 13 have been amended and claim 2 has been cancelled by way of the present amendment. Reconsideration is respectfully requested.

In the outstanding Office Action, the election without traverse of species I (i.e., claims 1-13 and 16) was acknowledged; the listing of references in the specification was indicated as not a proper information disclosure statement (IDS); the drawings were objected to because they do not include reference signs "20" and "56" mentioned in the description; the disclosure was objected to due to informalities; claims 1-13 and 16 were rejected under 35 U.S.C. §112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; claims 1, 2 and 6-7 were rejected under 35 U.S.C. §102(b) as being anticipated by Reinhardt (U.S. Patent No. 2,261,096); claims 3-5, and 8-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rienhardt and further in view of the admitted prior art and Blyth et al (U.S. Patent No. 4,619,853); and claims 13 and 16 were rejected as being unpatentable over Rienhardt and further in view of Hackler (U.S. Patent No. 4,871,604); claims 1-2, 6-7, 13 and 16 were rejected as being unpatentable over Hackler in view of Reinhardt; and claims 3-5 and 8-12 were rejected as being unpatentable over Hackler and Reinhardt in view of the admitted prior art and Blyth et al.

First, Applicant wishes to thank Examiner Goff for the courtesy of granting a telephone interview to Applicant's representatives, Shaorong Chen, Richard Celeste and Myron Wyche, on March 9, 2004. During the interview, proposed amendments to claim 1 and claim 13 were discussed. After the discussion, Examiner Goff indicated that the proposed amendments appeared to be consistent with the elected species in the case and would provide a compliant amendment in response to the Office Action mailed on September 11, 2002.

The listing of references in the specification was indicated as not a proper IDS. In response, a proper IDS was filed on September 9, 2003. A courtesy copy of the filed IDS has been included herewith.

The drawings were objected to because they do not include reference signs "20" and "56" mentioned in the description. In response to the drawing objection, the specification has been amended to delete reference signs "20" and "56." Therefore, the deletions clearly raise no question of new matter and the objections to the drawings are rendered moot.

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The disclosure was objected to because of the informalities. In response to the objection, the specification has been amended according to the Office Action. The amendments are deletions and insertions as suggested in the Office Action mailed September 11, 2002 and the amendments raise no question of new matter.

Claims 1-13 and 16 were rejected under 35 U.S.C. §112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses the rejection.

In response to the rejection of claims 1-13 and 16 under 35 U.S.C. §112, 2nd paragraph, claims 1 and 13 have been amended to clarify the invention. In particular, claims 1 and 13 have been amended to remove the phrase "in the vicinity of the root portion of the loops" and the term "about," respectively. Thus, the amendments raise no questions of new matter. Therefore, it is respectfully submitted that amended claims 1 and 13, and claims dependent thereon, particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 1, 2 and 6-7 were rejected under 35 U.S.C. §102(b) as being anticipated by Reinhardt. Applicants respectfully traverse the rejection.

Claims 1 and 13 were amended to clarify the invention. In particular, claim 1 has been amended to recite:

applying a an amorphous thermoplastic binder material
having a predetermined
melting point in the vicinity of the root portion of the loops to the
surface of the backing;
stitching the array of pile loops onto the surface of the
backing with the stitching thread;
mechanically flexing the backing with the array of pile
loops thereon into and out of the plane of the backing at a
temperature greater than the melting point of the binder material,
thereby to cause the binder material to melt and to flow and
concentrate in the root portion of the pile loops, in the vicinity of
the stitching thread underlaps holding the root portion to the
backing, and near the surface of the backing adjacent to the root
portion.

In addition, claim 13 has been amended to change the dependency from cancelled claim 2 to claim 1 and to narrow the temperature range of the melting point of the claimed invention. Support for the amendments is provided at least at page 2, lines 23-31; page 4, lines 22-31; page 6, lines 31-37; and page 8, line 19 to page 9, line 12; and shown at least in Fig. 2A, Fig. 3A and Fig. 3B, of the specification. Therefore, the amendments raise no question of new matter.

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Reinhardt discloses a method for the formation of a needled felt product.¹ In particular, Reinhardt discloses: (1) a layer of fiber is needled-punched into a base fabric; and (2) the *entire structure* is immersed in a tank of dilute adhesive (e.g., latex).² That is, the *entire structure* is covered with *latex* to improve the durability of the product.³

However, Reinhardt nowhere discloses: “*applying an amorphous binding material having a predetermined melting point to the surface of the backing* (emphasis added),” as recited in amended claim 1. That is, the binder material is “amorphous” and applied to the “backing,” as recited in claim 1, in contrast to a binder material, preferably *latex*, that is applied to the *entire structure*, as disclosed by Reinhardt.

In addition, the claimed invention recites:

thereby to cause the binder material to melt and to flow and *concentrate in the root portion of the pile loops*, in the stitching thread underlaps holding the root portion to the backing, and near the surface of the backing adjacent to the root portion (emphasis added).

In contrast to the claimed invention, Reinhardt discloses:

feeding the needled fabric 10 is then *fed through a trough or tank* 12 containing an adhesive material 13 preferably constituted as a vulcanizable *latex* dispersion (emphasis added).⁴

That is, Reinhardt discloses coating the *entire surface of the fabric/pile loop*, whereas the claimed invention recites: “the binder material to melt and to flow and *concentrate in the root portion of the pile loops* (emphasis added).”

Further, as discussed above, the adhesive in Reinhardt is preferably latex. By definition latex is: “a water emulsion of a synthetic rubber or plastic obtained by polymerization.”⁵ More specifically, Reinhardt discloses the latex is itself a suspension and thus, has *no melting point*. That is, the “amorphous thermoplastic binder material,” as recited in claim 1, has “a predetermined melting point.” In contrast, the latex suspension binder material disclosed by Reinhardt, has *no melting point* and thus, Reinhardt *does not disclose* the claimed invention.

¹ Reinhardt at page 2, column 2, lines 16-29.

² *Id.* at page 1, column 2, lines 4-25.

³ *Id.* at page 1, column 1, lines 23-30.

⁴ *Id.* at page 1, column 2, lines 8-10.

⁵ Merriam-Webster's New Collegiate Dictionary, 1983.

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Moreover, claim 13 explicitly recites: "a *melting point* in the range from at least eighty-five (85) to at most ninety-five (95 °C) (emphasis added)." Therefore, the "latex dispersion" of Reinhardt, which has *no* melting point, does not disclose the invention of claim 13.

Therefore, it is respectfully submitted that claims 1 and 13 are not disclosed, anticipated or inherently taught by Reinhardt and that claims 1 and 13, and claims dependent thereon, patentably distinguish thereover.

Claims 3-5, and 8-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Rienhardt and further in view of the admitted prior art and Blyth et al. Applicant respectfully traverses the rejection.

Claims 3-5 and 8-12 are dependent on claim 1. As discussed above, Rienhardt does not disclose the invention of claim 1. Therefore, at least for the reasons discussed above, Rienhardt does not disclose the invention of claims 3-5 and 8-12.

In addition, the outstanding Office Action acknowledges additional deficiencies in Rienhardt and attempts to make up for these deficiencies with Blyth et al and the admitted prior art.⁶ However, Blyth et al and the admitted prior art cannot make up for the deficiencies in Rienhardt, as discussed below.

Blyth et al discloses a process adding latex and fluorochemicals for binding tufts of fiber in carpet.⁷ However, as discussed above, latex has *no* melting point. Thus, the latex of Blyth et al has no melting point and Blyth et al does not disclose the claimed invention or make up for the deficiencies of Rienhardt.

The admitted prior art discloses a standard Beck dye bath is used in conventional industry finishing processes during the flexing as a heating apparatus.⁸ However, as shown in the specification, the claimed invention is different from a standard Beck dye bath. That is, the specification discloses that the standard Beck dye bath uses a roller to roll the carpet inside the bath, whereas the claimed invention uses a more complex system than the standard Beck dye bath that repeatedly folds and counter-folds the backing in order to help the binder material propagate into the desired bond areas.⁹ Therefore, the admitted prior art does not disclose the claimed invention.

⁶ Office Action dated September 11, 2002 at page 5, lines 13-15.

⁷ Blyth et al at Abstract.

⁸ See Specification at page 2, line 20; page 9, line 9.

⁹ *Id.* at page 2, line 1; page 9, line 2.

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Therefore, it is respectfully submitted that claims 3-5 and 8-12 are not disclosed, suggested or made obvious by Reinhardt, Blyth et al or the admitted prior art, whether taken alone or in combination, and that claims 3-5 and 8-12, and claims dependent thereon, patentably distinguish thereover.

Claims 13 and 16 were rejected as being unpatentable over Rienhardt and further in view of Hackler. Applicant respectfully traverses the rejection.

Claims 13 and 16 are dependent on claim 1. As discussed above, Rienhardt does not disclose the invention of claim 1. Therefore, at least for the reasons discussed above, Rienhardt does not disclose the invention of claims 13 and 16.

In addition, the outstanding Office Action acknowledges additional deficiencies in Rienhardt and attempts to make up for these deficiencies with Hackler.¹⁰ However, Hackler cannot make up for the deficiencies in Rienhardt, as discussed below.

Hackler discloses a method in which a binding material is dispensed over the entire tufted pile surface.¹¹ In particular, Hackler discloses the binder material has a relatively high range of melting points (i.e., 100 - 170°C) in comparison to that of the claimed invention which has "a melting point in the range from at least eighty-five (85) to at most ninety-five (95 °C)," as recited in claim 13. Therefore, the melting points of Hackler do not disclose the melting points of the claimed invention.

Further, an object of the present invention is to apply binder materials to the surface of the backing so as to make carpet at low temperatures and avoid the negative effects of high temperatures discussed above in regards to Hackler.¹² In particular, the specification teaches that "temperatures in excess of approximately one hundred twenty degrees Centigrade (120°C) may adversely affect certain properties of the nylon material forming the pile elements."¹³ Thus, Hackler, which discloses melting points of 100 - 170°C, teaches away from the claimed invention. Therefore, for the reasons discussed above, Hackler does not make up for the deficiencies of Reinhardt.

Therefore, it is respectfully submitted that claims 13 and 16 are not disclosed, suggested or made obvious by Reinhardt and Hackler, whether taken alone or in combination, and that claims 13 and 15, and claims dependent thereon, patentably distinguish thereover.

¹⁰ Office Action dated September 11, 2002 at page 6, lines 18-20.

¹¹ Hackler at Abstract.

¹² Specification at page 1, lines 19-28; and at page 2, lines 10-14.

¹³ *Id.* at page 1, lines 28-32.

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Claims 1-2, 6-7, 13, and 16 were rejected as being unpatentable over Hackler in view of Reinhardt. Applicant respectfully traverses the rejection.

Hackler discloses a method in which a binding material is dispensed over the entire tufted pile surface.¹⁴ However, Hackler nowhere discloses: "applying an amorphous binding material having a predetermined melting point to *the surface of the backing* (emphasis added)," as recited in amended claim 1.

As discussed above, the specification teaches that binding materials with high temperature may negatively affect the material from which the pile elements are made.¹⁵ Therefore, as discussed above, Hackler teaches away from the invention of claim 1.

As discussed above, Hackler discloses a binder material that has a relatively high range of melting points (i.e., 100 - 170°C) in comparison to that of the claimed invention which has "a melting point in the range from at least eighty-five (85) to at most ninety-five (95 °C)," as recited in claim 13.

As discussed above, Reinhardt discloses a method for applying an adhesive, preferably latex, to a needled fiber backing. In particular, Reinhardt discloses the latex is itself a suspension and thus, has *no melting point*. Thus, Reinhardt does not disclose the "melting point," as recited in claim 1.

In addition, Reinhardt nowhere discloses: "applying an *amorphous* binding material having a predetermined melting point to the surface of the backing (emphasis added)," as recited in amended claim 1.

In addition, claim 13 explicitly recites: "a *melting point* in the range from at least eighty-five (85) to at most ninety-five (95 °C) (emphasis added)." As discussed above, the "latex suspension" of Reinhardt has *no melting point*, and thus Reinhardt does not disclose the invention of claim 13.

Moreover, Reinhardt discloses feeding the entire structure through a tank containing a latex suspension. In contrast, the claimed invention in claim 16 recites: a "powder binder is applied to the backing in the form of a slurry." Thus, Reinhardt does not disclose the invention of claim 16.

Therefore, it is respectfully submitted that claims 1-2, 6-7, 13, and 16 are not disclosed, suggested or made obvious by Hackler, and Reinhardt whether taken alone or in combination,

¹⁴ Hackler at Abstract.

¹⁵ Specification at page 1, lines 19-28.

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and that claims 1-2, 6-7, 13, and 16, and claims dependent thereon, patentably distinguish thereover.

Claims 3-5, and 8-12 were rejected as being unpatentable over Hackler and Reinhardt in view of the admitted prior art and Blyth et al. Applicant respectfully traverses the rejection.

Claims 3-5 and 8-12 are dependent on claim 1. As discussed above, Hackler does not disclose the invention of claim 1. Therefore, at least for the reasons discussed above, Hackler does not disclose the invention of claims 3-5 and 8-12.

In addition, as noted above, Hackler discloses a method in which a binding material is dispensed over the entire tufted pile surface.¹⁶ However, Hackler nowhere discloses: "applying an amorphous binding material having a predetermined melting point to *the surface of the backing* (emphasis added)," as recited in amended claim 1.

In contrast to the claimed invention, Hackler discloses the binder powder is applied to *the surface of the carpet*. That is, Hackler discloses adding the binder material on the surface of the carpet whereas the claimed invention recites: "to *the surface of the backing*."

Further, as discussed above, Reinhardt nowhere discloses: "applying an *amorphous* binding material having a predetermined melting point to the surface of the backing (emphasis added)," as recited in amended claim 1.

Furthermore, as discussed above, the admitted prior art discloses a standard Beck dye bath can be used in the flexing as a heating apparatus. However, the admitted prior art, as discussed above, does *not* teach folding and counter-folding in the bath to help the binder material propagate into the desired bond areas, as disclosed in the present invention.

Moreover, Blyth et al discloses adding appropriate amounts of the condensation product to the Beck dye bath.¹⁷ In addition, Blyth et al discloses a process adding latex and fluorochemicals for binding tufts of fiber in carpet.¹⁸ However, as discussed above, latex has *no* melting point. Thus, the latex of Blyth et al has no melting point and Blyth et al does not disclose the claimed invention or make up for the deficiencies of Hackler.

Therefore, at least for the reasons discussed above, it is respectfully submitted that claims 3-5, and 8-12 are not disclosed, suggested or made obvious by Hackler, Reinhardt, Blyth et al and the admitted prior art whether taken alone or in combination, and that claims 3-5, and 8-12, and claims dependent thereon, patentably distinguish thereover.

¹⁶ Hackler at Abstract.

¹⁷ See Blyth et al at column 4, lines 2-4.

¹⁸ Blyth et al at Abstract.

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Conclusions

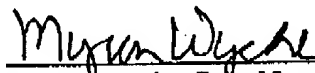
In view of the above, reconsideration and allowance are, therefore, respectfully solicited.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

Applicant believes no fees are due with this request. However, the Director is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including any extension fees, to Deposit Account No. 03-2775.

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Respectfully submitted,



Myron Wyche, Reg. No. 47,341
Customer Number 30678
CONNOLLY BOVE LODGE & HUTZ LLP
1990 M Street, N.W., Suite 800
Washington, D.C. 20036-3425
Telephone: 202-331-7111